

DEPARTMENT OF THE ARMY TECHNICAL
MANUAL

ARTILLERY AMMUNITION:
AUTHORIZED PROJECTILE, FUZE AND PROPELLING
CHARGE COMBINATIONS
FOR
HOWITZER, HEAVY, SELF-PROPELLED, 8 INCH:
M110A2 WITH CANNON, M201A1

Approved for public release; distribution is unlimited
Headquarters, Department of the Army, Washington, DC
24 August 1988

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or know of a way to improve the procedures, please let us know. Mail your DA Form 2028 (Recommended Changes to Publications and Blank Forms), direct to: Commander, US Army Armament, Munitions and Chemical Command, ATTN: AMSMC-MAY-T (D), Dover New Jersey 07806-5000. A reply will be furnished direct to you.

INTRODUCTION

SCOPE

This manual contains a listing of authorized projectile, fuze and propelling charge combinations for the self-propelled, 8 inch M110A2 howitzer. For ready reference and ease of handling, this information is published in chart form. When a conflict exists in the data in this manual and other published technical manuals, this manual will take precedence.

PRECAUTIONS

Precautions and restrictions to be observed in handling fuzes and firing ammunition with the charge/projectile-fuze combinations indicated in this manual are published in TM 9-2350-304-10.

* This manual supersedes TM 43-0001-28-4, 15 February 1983.

| KEY | TO ABBREVIATIONS AND SYMBOLS |
|------------|--|
| X | AUTHORIZED |
| • | AUTHORIZED |
| GB | Nonpersistent toxic (casualty) nerve gas |
| HERA | High explosive rocket assisted |
| ICM | Improved Conventional Munitions |
| MT | Mechanical time |
| MTSQ | Mechanical time and superquick |
| PD..... | Point detonating |
| Prox | Proximity, |
| VX..... | Persistent toxic (casualty) nerve gas |

**AUTHORIZED PROJECTILE, FUZE AND PROPELLING CHARGE COMBINATIONS
HOWITZER, HEAVY SELF-PROPELLED. 8 INCH: M110A2 WITH CANNON, M201A1**

| FUZE | | | | | | | | | TYPE AND MODEL NUMBER OF PROJECTILE | PROPELLING CHARGE | | | | | | | | | | |
|----------------|------|------|------|--------|----------------|----------------|-----------|------|--|-------------------|---|---|---|---|------|---|---|------|--------|---|
| PD | | | MT | MTSQ | | | PROX (VT) | | | M1 | | | | | M2 | | | M188 | M188A1 | |
| M739 Series | M557 | M572 | M565 | M564 | M577 Series | M582 Series | M728 | M732 | | Zone | | | | | Zone | | | Zone | Zone | |
| | | | | | | | | | 1 | 2 | 3 | 4 | 5 | 5 | 6 | 7 | 8 | 8 | 9 | |
| X | X | | | | | | | | AGENT GB, VX | • | • | • | • | • | • | • | | • | • | • |
| X | X | X | | X 3 | | X | | X | HE, M106 (SHALLOW CAVITY) | • | • | • | • | • | • | • | • | • | • | • |
| X | X | X | | X 3 | | X | X 2 | X | HE, M106 (DEEP CAVITY) | • | • | • | • | • | • | • | | • | • | • |
| | | | X | | X | | | | HE, M404, ICM | • | • | • | • | • | • | • | | | | |
| | | | | | X | | | | HE, M509A1, | • | • | • | • | • | • | • | • | • | • | • |
| X | X | X | | | | | | | HERA, M650 (ROCKET-ON) | | | | | | | | • | • | • | • |
| X | X | X | | X 3 | | X | | X | HERA, M650 ¹ (ROCKET-OFF) | • | • | • | • | • | • | • | • | • | • | • |

WARNING: 1 - DO NOT FIRE THE M650 PROJECTILE IF THE OBTURATING BAND IS MISSING OR BROKEN. IF THE BAND IS DISPLACED AND CAN BE REPOSITIONED AND REMAIN IN THE GROOVE, THE PROJECTILE CAN BE FIRED.

NOTE: 2 - AUTHORIZED, REQUIRES REMOVAL OF SUPPLEMENTARY CHARGE.

3 - FUZE, MTSQ, M564 IS RESTRICTED FROM FIRING WITH ZONE 9 M188A1 PROPELLING CHARGE.

By Order of the Secretary of the Army:

CARLE. VUONO
General, United States Army
Chief of Staff

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Distribution

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RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

| | | | |
|---|----------------|--|--------------|
|  <div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block; margin-left: 20px;"> <p style="margin: 0;"><i>THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.</i></p> </div> | | SOMETHING WRONG WITH PUBLICATION | |
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| <div style="border: 1px solid black; height: 400px; margin-top: 10px;"> <p style="text-align: center; font-weight: bold; margin-top: 10px;">IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.</p> </div> | | | |
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PREVIOUS EDITIONS ARE OBSOLETE.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
 1 decimeter = 10 centimeters = 3.94 inches
 1 meter = 10 decimeters = 39.37 inches
 1 dekameter = 10 meters = 32.8 feet
 1 hectometer = 10 dekameters = 328.08 feet
 1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
 1 decigram = 10 centigrams = 1.54 grains
 1 gram = 10 decigrams = .035 ounce
 1 decagram = 10 grams = .35 ounce
 1 hectogram = 10 decagrams = 3.52 ounces
 1 kilogram = 10 hectograms = 2.2 pounds
 1 quintal = 100 kilograms = 220.46 pounds
 1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. ounces
 1 liter = 10 deciliters = 33.81 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

| <i>To change</i> | <i>To</i> | <i>Multiply by</i> | <i>To change</i> | <i>To</i> | <i>Multiply by</i> |
|------------------|--------------------|--------------------|--------------------|---------------|--------------------|
| inches | centimeters | 2.540 | ounce-inches | Newton-meters | .007062 |
| feet | meters | .305 | centimeters | inches | .394 |
| yards | meters | .914 | meters | feet | 3.280 |
| miles | kilometers | 1.609 | meters | yards | 1.094 |
| square inches | square centimeters | 6.451 | kilometers | miles | .621 |
| square feet | square meters | .093 | square centimeters | square inches | .155 |
| square yards | square meters | .836 | square meters | square feet | 10.764 |
| square miles | square kilometers | 2.590 | square meters | square yards | 1.196 |
| acres | square hectometers | .405 | square kilometers | square miles | .386 |
| cubic feet | cubic meters | .028 | square hectometers | acres | 2.471 |
| cubic yards | cubic meters | .765 | cubic meters | cubic feet | 35.315 |
| fluid ounces | milliliters | 29.573 | cubic meters | cubic yards | 1.308 |
| pints | liters | .473 | milliliters | fluid ounces | .034 |
| quarts | liters | .946 | liters | pints | 2.113 |
| gallons | liters | 3.785 | liters | quarts | 1.057 |
| ounces | grams | 28.349 | liters | gallons | .264 |
| pounds | kilograms | .454 | grams | ounces | .035 |
| short tons | metric tons | .907 | kilograms | pounds | 2.205 |
| pound-feet | Newton-meters | 1.356 | metric tons | short tons | 1.102 |
| pound-inches | Newton-meters | .11296 | | | |

Temperature (Exact)

| | | | | |
|----|------------------------|----------------------------|---------------------|----|
| °F | Fahrenheit temperature | 5/9 (after subtracting 32) | Celsius temperature | °C |
|----|------------------------|----------------------------|---------------------|----|

